IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1-17. (canceled)

18. (currently amended) A chromatic dispersion compensation controlling system for compensating for chromatic dispersion caused when an optical signal is transmitted through a transmission line, comprising:

a peak detection unit detecting a peak value of a receiving signal; and

a control unit determining whether chromatic dispersion caused in an optical signal is excessive in a positive direction or in a negative direction, by comparing the peak value with a predetermined threshold and supplying a variable chromatic dispersion compensator with a control signal;~~The chromatic dispersion compensation controlling system according to claim 17,~~

a transmission quality detection unit detecting transmission quality information of a receiving signal,

wherein said control unit

supplies the variable chromatic dispersion compensator with a control signal, using a positive/negative sign of excessive chromatic dispersion obtained by detecting a peak value and an absolute value of an amount of chromatic dispersion to be compensated that is obtained from the transmission quality information; ~~whereinsaid control unit~~

sets a threshold of an amount of change in optimal chromatic dispersion compensation, ~~and~~

controls the chromatic dispersion compensation ~~with high accuracy~~ by one of a down-hill method and~~or~~ a dithering method, responsive to~~if~~ an ~~observed~~ amount of change being~~is~~ equal to or less than the threshold, and

controls the chromatic dispersion ~~at high speed~~ using a positive/negative sign of residual chromatic dispersion obtained from a peak value and an absolute value of an amount of chromatic dispersion to be compensated ~~if~~responsive to the amount of change

~~exceeds~~exceeding the predetermined threshold.

19-23. (canceled)

24. (currently amended) A chromatic dispersion compensation controlling method for compensating for chromatic dispersion caused when an optical signal is transmitted through a transmission line, comprising:

detecting a peak value of a receiving signal; and

determining whether chromatic dispersion caused in an optical signal is excessive in a positive direction or in a negative direction, by comparing the peak value with a predetermined threshold and supplying a variable chromatic dispersion compensator with a control signal;~~The chromatic dispersion compensation controlling method according to claim 23, wherein~~ said determining comprising:

supplying a control signal to said variable chromatic dispersion compensator, using a positive/negative sign of excessive chromatic dispersion obtained by a detection of a peak value and an absolute value of an amount of chromatic dispersion compensation to be compensated from the transmission quality information;

setting~~in said determining step,~~ a threshold of an amount of change in optimal chromatic dispersion compensation ~~is set, and~~

controlling chromatic dispersion compensation ~~is controlled with high accuracy~~ by one of a down-hill method and~~or~~ a dithering method, responsive to ~~if~~ an observed amount of change ~~is~~being equal to or less than the threshold.~~,~~; and

controlling chromatic dispersion ~~is controlled at high speed~~ using a positive/negative sign of residual chromatic dispersion obtained from a peak value and an absolute value of an amount of chromatic dispersion to be compensated, ~~if~~responsive to the amount of change exceeding~~exceeds~~ the predetermined threshold.

25-27. (canceled)